

### ABSTRACT OF THE DISCLOSURE

A digital projector that has closed loop three color alignment comprising a light source where an optical engine (50) splits a beam of light from the light source into first, second, and third wavelength bands. A first, second, and third spatial light modulator (11, 12, 16) imparts image data and first, second, and third fiducial data respectively to the first, second, and third wavelength bands. The first, second, and third wavelength bands are directed to the first, second, and third spatial light modulator (11, 12, 16), respectively. A combiner combines the modulated first, second, and third wavelength bands. A diverter (19) diverts a portion of the combined modulated wavelength bands to at least one sensor. The sensor (21) then senses a relative position of the fiducials and sends the position information to a microprocessor. The microprocessor then determines an error based on the relative position of the fiducials. The microprocessor sends a signal to at least one component of the system to resolve the error.

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